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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/686,369	10/15/2003	Craig C. Klocke	P06629US0-5195	6717

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DES MOINES, IA 50309-2350

EXAMINER

WEINSTEIN, LEONARD J

ART UNIT	PAPER NUMBER
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3746

MAIL DATE	DELIVERY MODE
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02/20/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/686,369

Applicant(s)

KLOCKE, CRAIG C.

Examiner

LEONARD J. WEINSTEIN

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 November 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7-9, 14, 21 and 22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7-9, 14, 21 and 22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. This office action is in response to the amendment of November 30, 2007. In making the below rejections and/or objections the examiner has considered and addressed each of the applicant's arguments.
2. The examiner acknowledges the amendment to claim 7 and the addition of new claims 20-21.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claim 22 is rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a microprocessor to send an averaged output signal, does not reasonably provide enablement for a "feedback signal and set point signal are averaged by the microprocessor." The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims. The specification does not describe a method where the two signal discussed above are averaged, either individually as taken over a period of time before an operation is performed, or if the two signals are averaged together. The specification merely states that a control signal of a microprocessor is an average signal and a dithered signal, however it is silent as what is being averaged or what operation is performed on the set-point and feedback signals by a microprocessor. Claim 22 does not set forth a clear limitation that would allow the examiner to ascertain the method which is claimed, and has not been further treated on the merits.

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Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 7-9 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Horiuchi US 4,960,365 in view of Kuragaki et al. US 2001/0017077. Horiuchi teaches all the limitations as claimed for method of control the angle of a swash plate including: **[claim 7]** generating an electric signal (Vf), as Vf is a product of (Ve) through operation of a feedback loop, based on a set point signal (Vo), receiving the electric signal (Vf), in a microprocessor 14, interpolating the information from the electric signal (Vf) using an algorithm contained in the microprocessor 14 (col. 13 ll. 48 – col. 14 ll. 2), sending an output signal (Ve') from the microprocessor 14, by way of elements 6', 19, and 10, to a pressure control, as defined by elements 8, 13, 15, 84, and 81 of 80 (col. 13 ll. 7-30), dithering the output signal (Ve'), via (Vd), and generating a pressure signal in the pressure control, as defined by elements 8, 13, 15, 84, and element 81 of 80 (col. 13 ll. 7-30), that displaces the swash plate 74 (col. 14 ll. 47-56); **[claim 8]** the step of the method for controlling a swash plate including wherein the set

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point signal (Vo) is generated by measuring an operational parameter (col. 13 ll. 48-51);

[claim 9] the step of the method for controlling a swash plate wherein the operational parameter is the angle of the swashplate 74, as (Vf) is a product of (Ve) through a feedback loop by way of (Voq) which defines the operating parameter of the swash plate 74 (col. 14 ll. 47-56); **[claim 21]** and the step of receiving a feed back signal (Vf) within the microprocessor 14, as (Vf) is a product of (Ve) through a feedback loop by way of (Voq) which defines the operating parameter of the swash plate 74, that is dependent on an angle of the swashplate 74 (col. 14 ll. 47-56).

Horiuchi fails to teach the following limitation that Kuragaki teaches was known in the art at the time of the invention and including a method for control including wherein an output signal that is superimposed with a dither signal (§0004). It would have been obvious to one of ordinary skill in the art modify a control system for a hydrostatic unit having a valve, and wherein a dithered signal is added to another signal, to a method of control wherein another signal is superposed with the dither signal, in order to improve an operation of the valve (Kuragaki et al. - §0004).

8. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Horiuchi US 4,960,365 in view of Kuragaki et al. US 2001/0017077 as applied to claim 7 above, and further in view of Takahashi et al. US 6,648,014. A combination of Horiuchi and Kuragaki teaches the limitations as discussed including (reference numeral disclosed by Horiuchi) a pressure control, as defined by elements 8, 13, 15, 84, and 81 of 80, including a pilot valve, with element 84 of the pressure control as discussed. Horiuchi does not explicitly teach a flapper style pilot valve, which is not expressly defined in the disclosure of the instant application. By applicant's own admission (pg. 4 ll. 28-32; pg. 3 ll. 1-2), a pressure control can be of any type including a

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flapper style however does not clearly set forth what a flapper nozzle style valve is and how it would work in conjunction with components of the instant invention as disclosed. Further Takahashi teaches that a flapper mechanism, elements 51, 52, and 54, can be comprised of a piston member 54 that is spring loaded, via elements 51 and 52, disposed within a chamber, as shown in figure 2. As evidenced by Takahashi the pilot valve 84 of Horiuchi can be considered a flapper nozzle style valve and it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a flapper style pilot valve to hydraulic control as it is well known in the art to use a flapper mechanism with a hydraulic control in order to use a pressurized fluid source to drive a spool (Takahashi – col. 1 ll. 25-27).

Response to Arguments

9. Applicant's arguments with respect to claims 7-9 and 14 have been considered but are moot in view of the new ground(s) of rejection.

10. Although new grounds of rejection have been provided the examiner acknowledges that several arguments which pertain to the primary reference cited. The applicant argues that Horiuchi '365 does not teach a method for control where an output signal is dithered. The applicant argues that Horiuchi does not teach a method of control where a valve receives a dithered output. In response to the arguments the examiner notes that the limitations as claimed are sufficiently broad to include any control sequence where a node (apparatus) receives a signal that at one point in the sequence was dithered.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LEONARD J. WEINSTEIN whose telephone number is (571)272-9961. The examiner can normally be reached on Monday - Thursday 7:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Devon Karmer can be reached on (571) 272-7118. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Leonard J Weinstein/
Examiner, Art Unit 3746

DEVON KRAMER
SUPERVISORY PATENT EXAMINER

Devon Kramer 2/19/08